

A remarkable disjunction :
Scrobipalpa reiprichi POVOLNÝ, 1984
discovered in Norway, with remarks
on the characteristics of the species
(Lepidoptera, Gelechiidae)

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Abstract

Scrobipalpa reiprichi POVOLNÝ, 1984, recently described from Czechoslovakia, is newly recorded from a site in Norway with similar ecological characteristics to the type-locality. The moth is redescribed, and illustrations are given of the male and female genitalia and habitat.

Résumé

Scrobipalpa reiprichi POVOLNÝ, 1984, décrit récemment de Tchecoslovaquie, a été également découvert en Norvège, dans un endroit qui présente les mêmes caractéristiques écologiques que la localité type. Le papillon est redécrit, avec figures des genitalia mâle et femelle et photos du biotope.

Zusammenfassung

Scrobipalpa reiprichi POVOLNÝ, 1984, kürzlich beschrieben aus der Tschechoslowakei, ist auch in Norwegen entdeckt worden, und zwar an einem Ort mit ähnlichen ökologischen Merkmalen wie der Typus-Fundort. Die Art wird neu beschrieben, mit Abbildungen der männlichen und weiblichen Genitalien und Photos vom Biotop.

Introduction

On July 11, 1982 two specimens of a *Caryocolum*-like gelechiid were collected at Vinstra in Norway. The species was unknown to us, and a study of the genitalia proved that it belonged to the genus *Scrobipalpa*. It was evident that the species in question was new to the N. European fauna. A study of the literature on the numerous Palaearctic species of this genus gave no clues as to its identity, and we considered the species to be undescribed.

In 1983, 1984, and 1985 the locality at Vinstra was revisited and further specimens were obtained. In 1984 POVOLNÝ described *Scrobipalpa reiprichi* from Czechoslovakia. According to the description this species was obviously very close to that from Norway, and a comparison of two paratypes of *S. reiprichi* with specimens from Vinstra showed that they are indeed conspecific.

The locality at Vinstra

Vinstra is situated in the valley Gudbrandsdalen about half-way between Trondheim and Oslo. The climate is continental with cold winters and an annual rainfall of less than 500 mm. The locality where *S. reiprichi* was collected is a south-facing slope about 3 km to the SE of Vinstra. The slope is much warmer than the adjacent valley: In spring the birches there may come into leaf two weeks earlier than those growing elsewhere in the vicinity. The bedrock consists of slate with a high content of limestone. Figs. 1-3 show parts of the locality where *S. reiprichi* was found.

Our specimens were netted at late dusk when they were flying along steep cliffs with a rich growth of lichens. The herbs growing on ledges and on the slope below the cliffs include *Viscaria vulgaris*, *Melandrium album*, *Sedum telephium*, *S. album*, *Anthyllis vulneraria*, *Pimpinella saxifraga*, *Anchusa officinalis*, *Origanum vulgare*, *Anthemis tinctoria*, *Achillea millefolium* and *Centaurea scabiosa*. The adjacent wood is dominated by *Betula verrucosa* with some *Alnus incana*, *Sorbus aucuparia*, *Prunus padus* and *Pinus sylvestris*.

Judging from the original description of *S. reiprichi* (POVOLNÝ, 1984) the localities in Czechoslovakia and Norway are quite similar. Both are exposed south-facing slopes which are warmer than the surroundings and both have bedrock containing slate.

The lepidopteran fauna of the locality at Vinstra is interesting: it contains several species which are not found elsewhere in Norway and which are extremely rare in Sweden, viz. *Coleophora partitella* ZELLER, 1849, *Caryocolum petrophila* (PREISSECKER, 1914), *C. viscariella* (STANTON, 1855), *Syncopacma sangiella* (STANTON, 1863) and *Lyonetia prunifoliella* (HÜBNER, 1796). *Cosmardia moritzella* (TREITSCHKE, 1835), which is common at Vinstra and has been found in a few other localities in SE. Norway, does not occur in other N. European countries.

Imago (Figs. 4-5). Forewing length: 4.7-5.9 mm. Frons whitish, neck with fuscous scales. Thorax and base of forewing fuscous. Antenna pale, ringed with dark. Outer surface of second segment of labial palpus with mixed dark fuscous and pale ochreous scales; tip black with a pale patch in middle.



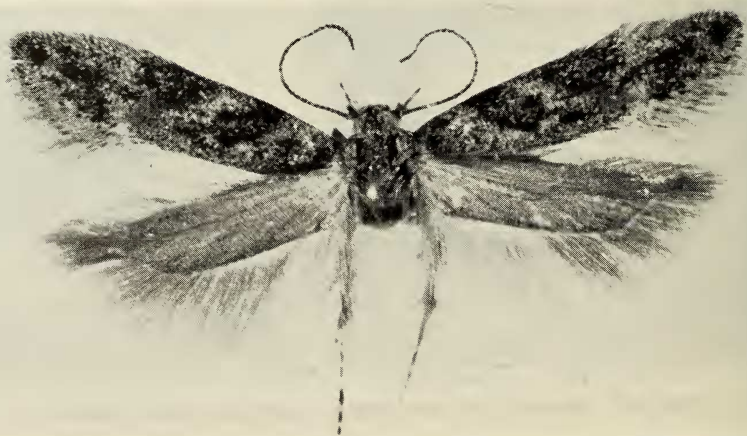
Figs. 1-3. The locality at Vinstra where *Scrobipalpa reiprichi* occurs.



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Figs. 4-6. *Scrobipalpa reiprichi* Pov. Fig. 4 ♂, Norway. Fig. 5 ♀, Norway. Fig. 6. ♂, paratype, Czechoslovakia.

Forewing lanceolate, base dark fuscous ; about one-fifth from base along costa a dark fuscous to black streak (about 1 mm broad) pointing toward middle of wing margin, but normally not reaching fold ; from one-third to two-thirds along costa a triangular dark fuscous to black patch reaching black spot in middle of forewing ; from this spot a patch of orange-brown scales extending to tornus ; two further black spots about one-third from base ; all three black spots surrounded by orange-brown scales ; area along base of forewing pale ochreous mixed with fuscous and a few orange-brown scales. Costal and tornal spots ochreous, with a tendency to form an angulated fascia. Area beyond this fascia fuscous with orange-brown scales, the fuscous scales sometimes forming a dot in apex. Cilia grey with distinct grey cilia line. Hindwing grey to dark grey ; cilia a little lighter. Underside of forewing and anterior third of hindwing covered with coarse fuscous scales ; rest of hindwing underside with fine, light grey scales. The fuscous colour of the forewing may be more or less predominant, but fresh specimens consistently appear to be darker than rubbed ones. Female similar to male.

The wing markings of *S. reiprichi* are unusual for a *Scrobipalpa*, and this species cannot be confused with other members of this large genus. In fact, it somewhat resembles certain species of *Caryocolum* GREGOR and POVOLNÝ (e.g., *C. alsinella* (ZELLER, 1868)) ; this is especially true when *S. reiprichi* is found alive, sitting on cliffs. In such situations the likeness is so striking that we have been confused by it, even though we now feel familiar with the rich gelechiid fauna at Vinstra.

There seem to be no noteworthy differences between specimens from Norway and the two specimens from the type locality in eastern Slovakia (Fig. 6), which were kindly sent to us by ANDREJ REIPRICH for comparison.

The male genitalia (Figs. 7-8) — typical for the genus *Scrobipalpa* — are particularly similar to those of *S. obsoletella* (FISCHER VON RÖSLERSTAMM, 1841). POVOLNÝ (1984) compared the male genitalia of *S. reiprichi* with those of *S. clintoni* POVOLNÝ, 1968 and *S. concerna* POVOLNÝ, 1969 ; *S. smithi* BRADLEY & POVOLNÝ, 1964 also has genitalia resembling those of *S. reiprichi*, but these species all differ in the markings of the forewings. Diagnostic features in the male genitalia of *S. reiprichi* are the slender and comparatively long saccus, the shape of the sacculus and the posterior process of the vinculum, and the comparatively narrow, truncate uncus. The apparent differences in the photographs of the male genitalia of a specimen from Norway and those of a paratype from Czechoslovakia (Figs. 9-10) are due to different techniques of preparation and mounting.

The female genitalia (Figs. 11-12) have segment VIII longer than broad, areas around the base of the apophyses anteriores with foamlke sculpture ;



Figs. 7-10. Male genitalia of *Scrobipalpa reiprichi* Pov. Figs. 7-8. Norway, slide no. OK 4130. Figs. 9-10. Paratype, Czechoslovakia, slide POVOLNÝ (without number).



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Figs. 11-13. Female genitalia of *Scrobipalpa reiprichi* Pov. Figs. 11-12. Norway, slide no. OK 4239. Fig. 13. Paratype, Czechoslovakia, slide POVOLNÝ (without number).

the central area of segment VIII is set with minute spines. The signum is a rather short, slender hook without distinctive teeth. The ductus bursae is, according to POVOLNÝ (1984) "entirely membranous", but a small colliculum is found near the ostium — even though it is missing in the slide of a paratype examined by us (Fig. 13).

The genitalia of *Caryocolum* cannot be confused with those of *Scrobipalpa*. Males of *Caryocolum* have no well-developed gnathos, and females lack the foamlike sculpture of segment VIII.

The genus *Scrobipalpa* is one of the largest gelechiid genera in the Palaearctic region. A large number of papers have been published on this genus by POVOLNÝ (see POVOLNÝ, 1984 for further references) containing many descriptions of new taxa, but no outline, classification or even a checklist has yet appeared. *S. reiprichi* is apparently not closely related to any species or species-group known to us, even though its closest relatives could well be among the species mentioned above under the discussion of the male genitalia. However, the phylogenetic position of *Scrobipalpa* species — as well as that of many other gelechiids — can be better assessed when its host plant is known; in our opinion *reiprichi* must therefore remain in an isolated position within *Scrobipalpa* until its host plant has been discovered.

Material examined

CZECHOSLOVAKIA, Slovakia, Spisská Nová Ves, 1 ♀ 4.vi.1982, 1 ♂ 15.v.1983 (Paratypes), A. REIPRICH leg. et coll. — NORWAY: On., Vinstra, 1 ♂, 1 ♀ 11.vii.1982, K. LARSEN, L. AARVIK leg. et coll.; 2 ♀♀ 17.-18.vii.1983, K. MYHR, L. AARVIK leg. et coll.; 1 ♀ 20.vii.1983, O. KARSHOLT, V. MICHELSEN leg., coll. ZMUC; 4 ♂♂, 14 ♀♀ 16.-17.vi.1984, K. MYHR, L. AARVIK leg. et coll. (1 ♀ in coll. K. LARSEN); 1 ♂, 3 ♀♀ 4.-5.vii.1984, O. KARSHOLT leg., O. KARSHOLT, K. SCHNACK, ZMUC coll.; 1 ♂, 1 ♀ 11. and 21.vi.1985, O. KARSHOLT, V. MICHELSEN leg., ZMUC coll.; 2 ♂♂, 4 ♀♀ 27.-28.vi.1985, K. R. TUCK, L. AARVIK leg., BMNH, I. SVENSSON, L. AARVIK coll.

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locality at Vinstra. Dr. N. P. KRISTENSEN, ZMUC, and Dr. K. SATTLER, British Museum (Nat. Hist.), London, England (BMNH) kindly reviewed the manuscript, and Dr. Mary PETERSEN, ZMUC corrected the language.

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References

- POVOLNÝ, D., 1984 : *Scrobipalpa (Euscrobipalpa) reiprichi* sp. n. (Lepidoptera, Gelechiidae) a surprising discovery from Eastern Slovakia. *Acta ent. bohemoslov.*, 81 : 453-457.